Air Quality Permitting

Technical Memorandum

TIER II Operating Permit No. 011-00013

IDAHO SUPREME POTATOES, INC.
FIRTH, IDAHO

PROJECT NO. T2-010314

Prepared by:

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Final Permit

LIST OF ACRONYMS

ACFM	Actual Cubic Feet Per Minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
BACT	Best Available Control Technology
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DEQ	Idaho Department of Environmental Quality
dscf	Dry Standard Cubic Feet
EF	Emission Factor
EPA	United States Environmental Protection Agency
gpm	Gallons Per Minute
gr	Grain (1 lb = 7,000 grains)
HAPs	Hazardous Air Pollutants
IDAPA	Idaho Administrative Procedures Act
km	Kilometer
lb/hr	Pound Per Hour
MACT	Maximum Available Control Technology
MMBtu	Million British thermal units
NESHAP	Nation Emission Standards for Hazardous Air Pollutants
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
NSPS	New Source Performance Standards
O_3	Ozone
OP	Operating Permit
PM	Particulate Matter
PM_{10}	Particulate Matter with an Aerodynamic Diameter of 10 Micrometers or Less
ppm	Parts Per Million
PSD	Prevention of Significant Deterioration
PTC	Permit To Construct
PTE	Potential To Emit
SCC	Source Classification Code
scf	Standard Cubic Feet
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TSP	Total Suspended Particulates
T/yr	Tons Per Year
µm	Micrometers
VOC	Volatile Organic Compound

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PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 58.01.01 Sections 404.04, *Rules for the Control of Air Pollution in Idaho* (*Rules*) for Tier II Operating Permits (OP) and to document the factual basis for issuing this operating permit.

PROJECT DESCRIPTION

This project is for the issuance of a Tier II OP for the Idaho Supreme Potatoes, Inc (Idaho Supreme Potatoes) Firth Facility located on the corner of Highway 91 and 800 Goshen Highway near Firth, Idaho. The Range-Township location is the northeast quarter of Section 25, Township 1 South, Range 36 East.

Idaho Supreme Potatoes is proposing to modify the main plant boiler (Boiler #4 – formerly designated as Boiler #1) and the Clever Brooks boiler (Boiler #3). Due to high natural gas prices, Idaho Supreme Potatoes is proposing to have the capability to burn Nos. 4, 5, and/or 6 residual fuel oil; natural gas; propane; and/or No. 2 distillate fuel oil.

In addition, Idaho Supreme Potatoes wishes to permit a fluidized bed dryer. The fluidized bed dryer was previously exempted from permitting based on an hourly operational limit. Idaho Supreme Potatoes wishes to increase the operational hours of the dryer.

Idaho Supreme Potatoes was previously issued a Tier II OP in December 1998. This OP expired in January 2001. In addition to the boilers, other permitted equipment included a primary dryer consisting of three sections (Dryer Stages A, B, and C), a secondary dryer, three industrial space heaters, other miscellaneous space heaters, storage silos, and flaker lines. This equipment will be included in a revised Tier II OP.

SUMMARY OF EVENTS

On September 17, 2001, the Idaho Department of Environmental Quality (DEQ) received a permit to construct (PTC) application from Idaho Supreme Potatoes for an increase in hours of operation for the fluidized bed dryer and for the ability to burn alternative fuels in boilers at Idaho Supreme Potatoes's Firth Facility.

On October 29, 2001, DEQ conveyed to Idaho Supreme Potatoes's consultant, via a phone conversation, that DEQ will issue a renewed and revised Tier II OP. The Tier II OP will serve as the PTC for the facility. On November 14, 2001, DEQ issued a letter indicating the permit application was incomplete. On December 17, 2001, DEQ issued a letter indicating the permit application was complete.

A proposed permit was issued by DEQ for public comment between March 1, 2002 and April 1, 2002. The response to these comments is presented in Appendix A of this memorandum.

DISCUSSION

1. Process Description

Idaho Supreme Potatoes is a potato processing company. The process primarily involves potato dehydration to make potato flakes. A brief description of the process is presented below.

Main Process Line

- The potatoes arrive at the plant on trucks, then are unloaded across pilers; deposited in temporary storage bins; transported from the bins; washed with cold water; and conveyed to a tare removal table where rot, sticks, and other debris are removed.
- The potatoes are transferred to a steam peeler and exposed to steam. Steam is exhausted and quenched in a water bath.
- The peel is fully removed by dry and wet scrubbing using revolving brushes and/or water sprays. Waste products from this portion of the process are used for cattle feed.
- Peeled potatoes are transferred to a trim table where defective parts and the remaining peel are removed.
- The potatoes are held in a surge bin and released at a metered rate for proper slicing. Sliced potatoes are pumped to pre-cookers or blanchers.

- The potatoes are then cooled to retrograde the starch gelatinization, water transported into cookers, and exposed to atmospheric steam until fully cooked.
- The potatoes are then forced through slots, broken into smaller pieces, and added to dehydration rolls.
- The mashed/dehydrated potatoes are spread across the face of drum dryers with five applicator rolls. The steam drum dryer rotates and drives moisture from the potato cells. Excess moisture is removed by a steam snifter fan.
- The dried potato sheet is cut off the drum and broken into smaller pieces. Good flake is transferred to mills, cut into desired particle size and density, and transported to product separation baghouses.
- The flake is then bagged and placed into large totes for storage and transport, reblended for texture and quality, or sent to silos for storage.

The "C line" process (an additional process line) flow is identical to the main process.

Slice Line

- The slice line process follows the main line process until the pre-cooker/blancher stage.
- After precooking/blanching, the slices are blown down or up to dehydrate the slices to a shelf stable product.
- The slices are piled in various thicknesses in Dryer Stages A, B, and C. The slices are then sorted and shipped in bags or totes.
- The slices may be finished or dried in the secondary dryer or used as byproduct for dog food.

2. Equipment Listing

The following equipment is being added or modified:

- Boiler #4: Bigelow boiler with Coen 200 Series CSI nitrogen oxide (NO_x) Mixer Size 34 burner.

  Stack Parameters:
  Height: 50 feet — Exit Gas Volume: 32,000 actual cubic feet per minute (acfm)
  Exit Diameter: 3 feet — Exit Gas Temperature: 375 °F

- Boiler #3: Cleaver Brooks Model WT200X-BR3.

  Stack Parameters:
  Height: 36 feet — Exit Gas Volume: 13,000 acfm
  Exit Diameter: 2.89 feet — Exit Gas Temperature: 550 °F

- Fluidized Bed Dryer: A BD21X3 fluidized bed dryer fired by two Maxon 435 Oven Pak II burners. Ancillary equipment includes a mixer vessel, miscellaneous tanks and pumps for liquid ingredients, enclosed conveyors for product transportation, and bulk bagging station for product collection.

  Stack Parameters:
  Height: 40 feet — Exit Gas Volume: 26,000 acfm
  Exit Diameter: 1.41 feet — Exit Gas Temperature: 120 °F

The other equipment at the facility is not being modified, nor are operational hour increases requested for other equipment. A complete equipment listing including stack parameters is presented in Appendix B.

In addition to the equipment listed in Appendix B, the facility utilizes one portable 16,000-gallon aboveground storage tank (AST) containing fuel oil; two 30,000-gallon ASTs containing fuel oil; one 10,000-gallon AST and one 20,000-gallon AST containing diesel fuel; and one 30,000-gallon AST containing propane.

3. Emissions Estimates

Air pollution emission rates from fuel burning equipment were calculated using United States Environmental Protection Agency (EPA) Air Pollution Emission Factors (AP-42 emissions factors). Listed below are hourly and annual emissions of criteria pollutants from all emission sources at the facility operating at full capacity. Criteria pollutants include NO_x, sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter of 10 micrometers or less (PM_{10}), carbon monoxide (CO), and lead. Emissions of toxic air pollutants (TAPs) were also calculated using AP-42 emission factors. Please refer to Appendix C for details regarding the ambient air concentration calculations. Appendix C also includes assumptions regarding hours of operation and

equipment operating parameters.

In addition to fuel burning equipment, particulate matter (PM) and PM_{10} are emitted from material processing and handling operations at the facility. Aggregate dehydration process emissions of PM were based on a mass balance previously completed by Idaho Supreme Potatoes. The results of the mass balance were originally submitted to DEQ in April 1995. The maximum PM emissions identified were approximately 0.00995% of the raw potato throughput. The facility did not request a change to the potato throughput capacity; therefore, the throughput limits were established as 72,338 pounds per hour and 287,000 tons per year as previously established in the Tier II OP issued in December 1998. Based on these throughputs, PM emissions are 7.19 pounds per hour and 28.6 tons per year.

The mass balance discussed above established PM emission rates from potato processing; however, no emissions factors for PM_{10} from potato dehydration processing are reported in AP-42. Therefore, to estimate PM_{10} emissions, it was assumed that the process is most similar to cereal drying. Emission factors for cereal drying in AP-42 indicate PM_{10} emissions are approximately 44% of PM emissions. Based on this assumption, PM_{10} emissions are 3.2 pounds per hour and 12.6 tons per year from all 12 flaker lines.

In addition, PM is also emitted from 10 storage silos at the facility. The PM emissions from each silo are controlled by a baghouse filter. No change to the throughputs was requested; therefore, the emission limits have not changed from the previous Tier II OP. The PM emissions limits for the previous Tier II OP were 0.064 pounds per hour per silo. It was assumed that all PM was emitted as PM_{10}.

The facility requested an emission limit for the aggregate dehydration process (the dehydration line, storage silos, and process emissions from the secondary dryers and Dryers A, B, and C) of 14.5 pounds per hour of PM and 6.4 pounds per hour of PM_{10}. The modeled emission rate for PM_{10} from the aggregate dehydration process was 7.0 pounds per hour.

Table 1. Facility-wide Emission Estimates of Criteria Pollutants

Process Description	PM_{10}[1]		SO_2[2]		NO_x[3]		CO[4]		Lead	
	lb/hr[5]	T/yr[6]	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
#4 Boiler	7.5	32.8	51.0	223.4	31.0	135.8	11.0	48.2	0.001	0.004
#3 Boiler	2.3	3.7	15.7	25.0	11.0	17.5	3.5	5.6	0.0004	0.0006
Fluidized Bed Dryer	0.8	3.3	0.004	0.02	1.1	4.8	0.6	2.5	0.000003	0.00001
Other Natural Gas Sources	0.4	1.6	0.03	0.1	4.9	21.3	4.0	17.3	0.00002	0.0001
Dehydration Process	6.4	22.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FACILITY TOTALS	**17.4**	**63.4**	**66.7**	**248.5**	**96.5**	**179.4**	**19.1**	**73.6**	**0.001**	**0.005**

1. PM_{10} = condensable and filterable particulate matter.
2. SO_2 = sulfur dioxide
3. NO_x = nitrogen oxides
4. CO = carbon monoxide
5. lb/hr = pounds per hour; emissions rates represent maximum hourly emissions from simultaneous operation of both generators.
6. T/yr = Tons per year; emissions rates represent maximum annual emissions from both generators.

Emissions from the #4 Boiler, #3 Boiler, and the fluidized bed dryer were evaluated burning Nos. 4, 5, and 6 residual fuel, No. 2 distillate fuel oil, natural gas, and propane. The emissions reported in Table 1 represent the maximum emissions from the boilers and fluidized bed dryer. A complete summary of emissions is presented in Appendix C.

In addition, emission rates were calculated from the two 12,000-gallon ASTs at the facility using EPA's Tanks 4.0 volatile organic chemical (VOC) emission calculation program. A copy of the program's output is presented in Appendix D. Total annual VOC emissions from both ASTs were calculated to be 9.82 pounds per year. Emissions from the ASTs were negligible; therefore, emissions from the ASTs are not regulated in the OP.

4. Modeling

Idaho Supreme Potatoes used the ISCST3 model, an approved regulatory model, to assess the ambient air quality impacts. The operating scenario modeled was for process equipment at the facility operating at full capacity as worst case. All sulfur oxide (SO_x) and NO_x emissions were modeled assuming that all SO_x was emitted as SO_2 and all NO_x was emitted as nitrogen dioxide (NO_2). These are worst-case assumptions. The ambient impacts from operation of the Firth facility are given in Table 2 below.

Table 2. Criteria Air Pollutant Ambient Impacts

	SO_x[1]			PM_{10}[2]		CO[3]		NO_2[4]	Lead
	3-Hour (µg/m3)	24-Hour (µg/m3)	Annual (µg/m3)	24-Hour (µg/m3)	Annual (µg/m3)	1-Hour (µg/m3)	8-Hour (µg/m3)	Annual (µg/m3)	Quarterly (µg/m3)
A	424.93	121.22	11.95	50.45	9.50	282.3	81.5	11.83	0.0023
B	545	144	23.5	86	32.7	11,450	5,130	40	0.15
C	970	265	35	136	42	11,732	5,212	52	0.15
D	1,300	365	80	150	50	40,000	10,000	100	1.5

A. Modeled Ambient Concentration
B. Background Concentration
C. Modeled Ambient Concentration plus Background Concentration
D. National Ambient Air Quality Standards (NAAQS) for SO_2, PM_{10}, NO_2, and CO
1. SOx = sulfur dioxide
2. PM_{10} = particulate matter with an aerodynamic mean diameter of 10 micrometers or less
3. CO = carbon monoxide
4. NO_2 = nitrogen dioxide
4. µg/m3 = micrograms per cubic meter.

Emissions of TAPs from the generators were evaluated and determined to be below the state standards or within acceptable risk criteria. Emissions of cobalt, fluoride, and phosphorus were greater than the toxic screening levels listed in IDAPA 58.01.01.585, and emissions of arsenic, beryllium, cadmium, chromium (VI), formaldehyde, nickel, and polyaromatic hydrocarbons (PAHs) were greater than the toxic screening levels listed in IDAPA 58.01.01.586. The emission rates for each of the other toxic air pollutants emitted by the generators were below screening thresholds specified by IDAPA 58.01.01.585 and 586. Refined modeling was conducted to determine ambient concentrations of the chemicals for which emissions exceeded corresponding screening thresholds. All impacts were found to be below acceptable ambient concentrations (AACs) and acceptable cumulative risk factors.

A discussion of the modeling results used to establish the ambient impacts of the generators at this site may be seen in Appendix E, and a more detailed discussion is included in Section 6 of this memorandum.

5. Facility Classification

The Idaho Supreme Potatoes Firth facility is a major facility as defined in IDAPA 58.01.01.006.55. It is a not a designated facility as defined in IDAPA 58.01.01.006.27. The Standard Industrial Classification code is 2034–Dried and Dehydrated Fruits, Vegetables, and Soup Mixes; "Establishments engaged in sun drying or artificially dehydrating fruits and vegetables, or in manufacturing packaged soup mixes from dehydrated ingredients."[1]

The Aerometric Information Retrieval System (AIRS) facility classification is "A" because the actual or controlled potential to emit is greater than 100 tons per year. The project is not subject to Potential of Significant Deterioration (PSD) requirements since the potential to emit is less than the PSD major source threshold of 250 tons per year for any one regulated pollutant located in an attainment or unclassifiable area.

[1] Standard Industrial Classification Manual, Executive Office of the President, Office of Management and Budget, 1987.

6. Area Classification

The facility is located within Bingham County in the northern portion of the Pocatello regional district. Bingham County is designated as an unclassifiable area for all regulated criteria air pollutants. Bingham County is located in Air Quality Control Region 61 and Zone 12.

7. Regulatory Review

This OP is potentially subject to the following permitting requirements:

IDAPA 58.01.01.006.55.a.i Major Facility

A major facility is defined as any facility that emits, or has the potential to emit, 100 tons per year or more of any regulated air pollutant. Idaho Supreme Potatoes has requested a permitted emission limit of 249 tons per year of SO_2 and 178 tons per year of NO_x, both regulated air pollutants, from the Firth facility. Therefore, the Idaho Supreme Potatoes's Firth facility is defined as a major facility.

IDAPA 58.01.01.161 Toxic Substances

Toxic substances shall not be emitted in such quantities or concentrations as to alone, or in combination with other contaminants, injure or unreasonably affect human or animal life or vegetation. Compliance with this standard was demonstrated through facility-wide modeling discussed in Appendix E of this memorandum.

IDAPA 58.01.01.401.03.a Tier II Operating Permits Required by the Department

A Tier II OP was required for the ISUP by DEQ to attain or maintain ambient air quality standards.

IDAPA 58.01.01.402 Application Procedures

A Tier II OP was requested by DEQ for the facility to establish facility-wide requirements to limit the facility's potential to emit below Prevention of Significant Deterioration emission rates and to comply with ambient air quality standards in accordance with *Rules for the Control of Air Pollution in Idaho*.

IDAPA 58.01.01.403 Permit Requirements for Tier II Sources

The Idaho Supreme Potatoes Firth facility demonstrated compliance with local, state, and federal emission standards and NAAQS as required in IDAPA 58.01.01.403. See Tables 1 and 2 above and Appendices B and D of this memorandum.

IDAPA 58.01.01.406 Obligation to Comply

The facility is required to comply with all applicable local, state, and federal rules and regulations.

IDAPA 58.01.01.470 Permit Application Fees for Tier II Permits

The facility is required to submit a permit application fee of $500.

IDAPA 58.01.01.510 – 516 Stack Heights and Dispersion Techniques

The provisions of IDAPA 58.01.01.510 through 516 do not apply to stack heights in existence on or before December 31, 1970. The generators were constructed in 1967; therefore, they are not subject to the provisions in Sections 510 through 516.

IDAPA 58.01.01.577 Ambient Air Quality Standards For Specific Air Pollutants

Emissions of pollutants listed in IDAPA 58.01.01.577 were shown to be in compliance with the Ambient Air Quality Standards. See Table 2 above and Appendix E.

IDAPA 58.01.01.625 Visible Emissions

The facility will not discharge any pollutant into the atmosphere for a period or periods aggregating more than three minutes in any 60-minute period which is greater than 20% opacity as determined by EPA Test Method 9.

IDAPA 58.01.01.650 Rules For Control Of Fugitive Dust

The facility is required to take all reasonable precautions to prevent the generation of fugitive dust.

IDAPA 58.01.01.677 Standards For Minor And Existing Sources

The facility shall not discharge into the atmosphere from any fuel burning equipment in operation prior to October 1, 1979, PM in excess of 0.050 grains per dry standard cubic foot (gr/dscf) corrected to 3% oxygen when burning liquid fuel, and 0.015 gr/dscf when burning gaseous fuel.

Both liquid and gaseous fuels are burned at the facility in a variety of equipment. Appendix F of this memorandum contains a combustion analysis (based on the maximum amount of fuel that can be combusted in the equipment per hour) that demonstrates compliance with this standard with one exception. When burning #5 residual oil in either Boiler #4 or Boiler #3, the PM emissions will slightly exceed the standard of 0.050 gr/dscf. The PM emissions are based on AP-42 emission factors, which are generally conservative. Therefore, a source test is required for both boilers when combusting #5 residual oil to determine actual PM emissions and compliance with the fuel burning standard.

IDAPA 58.01.01.701 Particulate Matter – New Equipment Process Weight Limitations

The facility operates 12 process dehydration lines and 10 storage silos that are individual sources of PM emissions. Based on the mass balance discussed in Section 3 of this memorandum, the emissions to process rate ratio (E/PW) for the dehydration lines is 0.0000995. Two equations for determining PM emissions are given in IDAPA 58.01.01.701:

Equation 1:	$E = 0.045(PW)^{0.60}$	0<PW<9,250
Equation 2:	$E = 1.10(PW)^{0.25}$	9,250<PW

Where E is the emissions rate and PW is the process throughput, both in pounds per hour. These equations can be rearranged to give the E/PW ratio.

Equation 1a:	$E/PW = 0.045(PW)^{-0.4}$	0<PW<9,250
Equation 2a:	$E/PW = 1.10(PW)^{-0.75}$	9,250<PW

Substituting the maximum value for PW of 9,250 lb/hr in Equation 1a, and the maximum throughput (72,338 lb/hr) into Equation 2a, the results are:

E/PW = 0.0017	(Equation 1a)
E/PW = 0.000294	(Equation 2a)

By comparison, these values are less than the E/PW values determined by the mass balance performed by Idaho Supreme Potatoes (0.0000995); therefore, the facility is in compliance with the process weight limitations.

The permit application indicated the maximum throughput through each storage silo is 9,600 lbs/hr. Each storage silo has an associated baghouse filter. Equation 2 gives a maximum emission rate of 10.9 lbs/hr based on process weight limitations. Based on the presence of the baghouse filter and the relatively low throughput, it is reasonable to assume the maximum emissions from the storage silos will be less than the emission rate established using Equation 2.

The process weight emission limit is not established as an enforceable permit condition because the permitted emissions limits are less than the limits established by the process weight equations.

IDAPA 58.01.01.728 Distillate Fuel Oil

The facility will not use any No. 1 distillate fuel oil with a sulfur content of greater than 0.3% by weight, nor No. 2 distillate fuel oil with a sulfur content of greater than 0.5% by weight.

40 CFR 60.40b Subpart Db Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

Boiler #4 at the ISUP facility is subject to the New Source Performance Standard (NSPS) 40 CFR 60.40b. The emissions requirements of Subpart Db are summarized below. Monitoring, recordkeeping, and reporting requirements are presented in the Tier II OP.

60.40b(a): Subpart Db applies to steam generating units that have a heat input capacity of greater than 100 MMBtu/hr. The maximum steam generating capacity of Boiler #4 is approximately 140 MMBtu/hr; therefore, Subpart Db is applicable.

60.42b(j): By combusting only very low sulfur oil, ISUP will comply with the sulfur dioxide standards of 60.42b. Very low sulfur oil is defined as oil that contains no more than 0.5 weight % sulfur or that, when combusted without controls, has a sulfur dioxide emission rate equal to or less than 0.5 lb/MMBtu heat input.

60.43b(f): Opacity shall not exceed 20% (six-minute average), except for one six-minute period per hour of not more than 27% opacity. This standard applies at all times, except during periods of startup, shutdown, or malfunction as provided in 60.43b(g).

60.44b(a): The NO_x emissions at the facility shall not exceed:
0.40 lb/MMBtu heat input for burning residual fuel at high heat release rate;
0.30 lb/MMBtu heat input for burning residual fuel at low heat release rate;
0.20 lb/MMBtu heat input for burning diesel fuel and natural gas at high heat release rate; and
0.10 lb/MMBtu heat input for burning diesel fuel and natural gas at low heat release rate.
This standard applies at all times, including periods of startup, shutdown, or malfunction, and compliance is determined on a 30-day rolling average as provided in 60.44b(h) and 60.44b(i).

40 CFR 60.40c Subpart Dc Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Boiler #3 at the Idaho Supreme Potatoes facility is subject to the New Source Performance Standard (NSPS) 40 CFR 60.40c. The emissions requirements of Subpart Db are summarized below. Monitoring, recordkeeping, and reporting requirements are presented in the Tier II operating permit.

60.40c(a): Subpart Db applies to steam generating units that have a heat input capacity of greater than or equal to 10 MMBtu/hr but less than 100 MMBtu/hr. The maximum steam generating capacity of Boiler #3 is approximately 43 MMBtu/hr; therefore, Subpart Db is applicable.

60.42c(d): To comply with the SO_2 standard, Idaho Supreme Potatoes will not burn oil with a sulfur content greater than 0.5% by weight. Compliance with the fuel oil sulfur limit is based on a 30-day rolling average as provided in 60.42c(g).

60.43c(c): Opacity shall not exceed 20% (six-minute average), except for one six-minute period per hour of not more than 27% opacity. This standard applies at all times, except during periods of startup, shutdown, or malfunction as provided in 60.43c(d).

40 CFR 60.110b Subpart Kb Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced After July 23, 1984

The facility is equipped with one 10,000-gallon AST, one 16,000-gallon AST, one 20,000-gallon AST, and two 30,000-gallon ATSs. The ASTs contain either distillate or residual fuel oil. The following portions of 60.110b apply to the ASTs at the Idaho Supreme Potatoes facility.

60.110b(b) and (c): Storage vessels with a capacity of less than approximately 19,800 gallons and storage vessels with a capacity of greater than about 19,800 gallons and less than about 40,000 gallons and with a maximum true vapor pressure of less 15 kilopascals (kPa) are exempt from the general provisions of 40 CFR 60 and from most of the portions of Subpart Kb. The three ASTs greater than 19,800 gallons in storage capacity contain liquids with a vapor pressure less than 15 kPa. Therefore, the ASTs at the facility qualify for the exemptions. The remaining applicable sections are discussed below.

60.116b(b): The facility will keep readily accessible records showing the dimensions of the ASTs and an analysis showing the capacity of the ASTs. These records will be kept at the facility for the life of the ASTs as provided in 60.116b(a).

8. Permit Requirements

In addition to the requirements identified in this section, emissions limits, operating requirements, and monitoring and recordkeeping requirements are established for Boiler #3, Boiler #4, and the storage tanks at the facility by NSPS. These requirements are discussed in Section 6 of this memorandum, and are not discussed in this section.

8.1 Emission Limits

Emission limits on specific air pollutants emitted from Boiler #3, natural gas burning equipment, and the dehydration processes are required to limit potential SO_2 emissions to below PSD levels and to ensure compliance with the PM_{10} 24-hour and annual NAAQS. Emissions from Boiler #4, and emissions of NO_x and CO from Boiler #3 and natural gas burning equipment, are provided in the permit for the purpose of managing air quality. The emissions rates listed in the Tier II OP appendix are estimated maximum emissions from the facility when operated at there potential to emit including operational limitations.

8.2 Operating Requirements

The permittee shall combust residual oil with a fuel content of 0.5% or less in any fuel burning equipment.

The permittee shall not combust in Boiler #4 residual oil with a nitrogen content greater than 0.3%.

The permittee shall operate Boiler #3 for a period not to exceed 3,185 hours per consecutive 12-month period.

The permittee shall operate the three industrial space heaters and miscellaneous space heaters for a period not to exceed 6,048 hours each per consecutive 12-month period.

The combined maximum amount of natural gas burned in Dryers A, B, C, and the secondary dryer shall not exceed 53,000 standard cubic feet per hour (scf/hr). The combined maximum amount of LPG burned shall not exceed 253 gallons per hour.

The combined maximum amount of natural gas burned in the industrial space heaters shall not exceed 41,235 scf/hr. The combined maximum amount of LPG burned shall not exceed 174 gallons per hour.

The total clean raw potatoes processed shall not exceed a rate of 72,338 pounds per hour, nor shall it exceed 287,000 tons per year for any consecutive 12-month period.

The total throughput through each storage silo shall not exceed 9,600 pounds per hour.

8.3 Monitoring, Recordkeeping, and Reporting Requirements

The permittee is required to report the results of all required performance test.

The permittee shall monitor the consecutive 12-month period operational hours of Boiler #3.

The permittee shall record the amount of hours each industrial space heater is operated per consecutive 12-month period, and record the amount of natural gas and LPG used from the fluidized bed dryer, Dryers A, B, C, secondary dryer, and industrial space heater per hour.

The permittee shall record the calendar date and the hourly and consecutive 12-month period throughput of each potato process line in operation, and the hourly throughput of each storage silo.

9. AIRS

AIRS/AFS[1] FACILITY-WIDE CLASSIFICATION[2] DATA ENTRY FORM

AIR PROGRAM POLLUTANT	SIP[3]	PSD[4]	NESHAP (Part 61)	NSPS[6] (Part 60)	MACT[7] (Part 63)	TITLE V	CLASSIFICATION (A, SM, B, C, or ND)
SO_2[8]	A					A	A
NO_x[9]	A					A	A
CO[10]	B						A
PM_{10}[11]	B						A
PM[12]	B						
VOC[13]	B						A
Total HAPs[14]	B						A
			APPLICABLE SUBPART				
				Db, Dc, Kb			

1. Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)
2. AIRS/AFS CLASSIFICATION CODES:
   - A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For NESHAP only, class "A" is applied to each pollutant which is below the 10 ton-per-year (T/yr) threshold, but which contributes to a plant total in excess of 25 T/yr of all NESHAP pollutants.
   - SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.
   - B = Actual and potential emissions below all applicable major source thresholds.
   - C = Class is unknown.
   - ND = Major source thresholds are not defined (e.g., radionuclides).
3. State Implementation Plan
4. Prevention of Significant Deterioration
5. National Emission Standards for Hazardous Air Pollutants
6. New Source Performance Standards
7. Maximum Achievable Control Technology
8. Sulfur Dioxide
9. Nitrogen Oxides
10. Carbon Monoxide
11. Particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers
12. Particulate Matter
13. Volatile Organic Compounds
14. Hazardous Air Pollutants

VE/FE/FD (Visible Emissions, Fugitive Emissions, and Fugitive Dust) are entered for compliance purposes only and do not require evaluation by the permit engineer.

FEES

The facility has paid the required $500.00 Tier II fee in accordance with IDAPA 58.01.01.470. This Tier II permt changes the facility classification to a major facility, therefore, this facility is required to register and pay fees in accordance with IDAPA 58.01.01.525.

RECOMMENDATIONS

Based on the review of the application materials and all applicable state and federal regulations, staff recommends that DEQ issue a final Tier II OP to the Idaho Supreme Potatoes, Inc. Firth facility. A public comment period was provided on the proposed permit and comments were evaluated.

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cc: Sherry Davis, Technical Services
Tiffany Floyd, Pocatello Regional Office
Joan Lechtenberg, State AQ Program office